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Rural household savings is a development topic which has received relatively little research attention. In part, this is due to the paucity of data which can be used to describe and explain rural household consumption-savings behavior. Researchers have found that information on household consumption, income, investment and savings, is arduous and costly to collect; fragmented consumption decisions are always difficult for households to recall correctly, and individuals almost always avoid giving interviewers complete information on their investments, savings and income. Research on this topic is further hampered by a number of policies which result in low returns to rural household savings in many low income countries. Under these conditions, it is very difficult for researchers to determine whether the apparent lack of rural household savings is due to faulty data, the lack of incentives to save, low incomes, or inability of rural households to postpone consumption.

Because of these research difficulties, the widely held assumption that very little voluntary savings capacity exists in low income rural areas has not been seriously challenged [Adams]. It has been generally assumed that most rural people are too poor to save, and that those households which do realize additional income, spend their windfalls on ceremonial sprees or additional consumption. In most low income countries important policies have been built on these unverified assumptions. As a result, little emphasis is placed on mobilizing voluntary rural savings, few incentives are provided to

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stimulate household savings, and involuntary techniques of mobilizing rural surpluses are stressed. Two types of information are needed to test these suppositions. The first is accurate information about rural household savings capacities. The second is clarification of the factors which are associated with changes in household savings behavior.

Fortunately, several household level data bases have been developed recently in Taiwan and South Korea which shed considerable light on rural savings capacities in these two countries. Analysis of the Taiwanese data has shown that very substantial voluntary rural saving capacities existed there from 1960 through 1970 [Ong]. Further, it appears that rural household savings behavior in Taiwan was closely related to the ability to save, reflected by income, and also strongly influenced by the returns households could expect from their savings. The following discussion reports on savings behavior among rural households in South Korea over the 1963 to 1974 period.

Background on South Korea

Over the past couple of decades, economic development activities in South Korea have been extensively documented and analyzed [Brown, Cole and Lyman, McKinnon, Shaw]. The very substantial economic reforms carried out during 1963 to 1965 make the South Korean case particularly interesting on savings issues. These reforms included export promotion policies, market oriented exchange rates and interest rates, and heavy emphasis on increasing domestic savings. Partially as a result of these reforms, gross national product growth rates increased to 12 percent per year over the 1965-70 period from less than 6 percent per year in the early 1960's.

These reforms emphasized mobilization of private savings. The overall savings strategy included two main elements. The first was to increase investment, employment and overall incomes so that individuals would have more

capacity to save. The second was to offer savers financial instruments which gave substantial incentives to save. These incentives were provided by interest rate adjustments which more-or-less doubled the contractual rates of interest charged and paid on debt instruments. Tax exempt interest payments on some time deposits of over one year were raised from 15 to near 30 percent per year in September 1965. At the same time, interest rates on most formal loans were raised to about 26 percent. Banks received a subsidy from the Bank of Korea to cover the difference between the interest charged on loans and interest paid on deposits. The main objectives of these interest rate reforms were to slow inflation, encourage savings, stimulate growth of formal financial markets, provide more funds for formal lenders, and reduce favoritism in the allocation of formal loans.

The results of this savings mobilization program have been very dramatic. As can be noted in Table 1, the sharp increase in interest rates paid on financial deposits in 1965, combined with a slowdown in inflation, resulted in positive real rates of interest on savings from 1965 through 1973. Over this period, financial savers were able to increase the purchasing power of their economic surpluses by saving in financial form. In real terms, total financial deposits increased more than ten-fold from 1965 to 1973. At the same time, total financial savings increased 20-fold.

This remarkable growth in financial savings was stunted by the surge in inflation in 1974. The negative real rates of interest on savings in that year were associated with a decrease in the purchasing power of total financial deposits and financial savings. It appears that the real rates of interest have a strong impact on financial deposits in Korea. One might argue, however, that aggregate savings behavior, especially among households, are not affected by changes in interest rates. Changes in interest rates on

TABLE 1: Interest Rates and Financial Deposits in South Korea 1963-74

	Contractual Interest Rates on Long Term Deposits[a]	Changes in Wholesale Price Index	Real Rates of Interest on Long Term Savings Deposits	Total Financial Deposits	Total Savings Deposits[b]
	-	Percent	-	-Billion 1970 Won-[c]	
1963	15.0	20.6	- 5.6	84.2	27.7
1964	15.0	34.6	-19.6	69.2	23.3
1965	18.0	10.1	7.9	114.4	44.6
1966	26.8	8.7	18.1	162.1	93.9
1967	26.8	6.4	20.4	259.3	162.3
1968	26.1	8.1	18.0	434.8	297.9
1969	23.8	6.8	17.0	676.0	492.9
1970	22.8	9.2	13.6	789.7	576.3
1971	22.1	8.6	13.5	900.2	652.6
1972	15.4	14.0	1.4	1069.4	736.3
1973	12.6	6.9	5.7	1324.5	917.0
1974	15.0	42.1	-27.1	1119.8	770.8

Source: Bureau of Statistics, Economic Planning Board, Korean Statistical Yearbook, Vol's. 16 (1969), and 22 (1975).

a/ These rates are for deposits of 12-month maturity. When interest rates were changed during the year, a simple weighted average of months covered by the interest rate was used in the calculations.

b/ Excludes checking deposits, other demand deposits, and short-term passbook deposits.

c/ The price index used to convert to 1970 prices was the wholesale price index for Korea. The exchange rate of won for dollars in 1970 was 316.

financial instruments may simply cause savers to shift their asset portfolio toward or away from formal financial forms. That is, higher nominal rates of interest may cause households to convert part of their liquidity from operations in the informal financial market, from cash holdings, or from physical assets to a formal savings account. If formal interest rates drop, the household reverses the process.

It is difficult, even with adequate data, to link changes in interest rates with changes in household savings-consumption behavior. In the South Korean case, for example, interest rate reforms were closely associated with other economic policies which resulted in sharply higher rates of economic growth. A significant part of the increase in formal financial activities in South Korea stemmed from this growth [Brown, pp. 179-211]. Likewise, a major part of the increase in financial savings was caused by higher incomes which gave households a greater capacity to save. The relative importance of changes in the capacity to save, versus changes in the incentive to save, is very difficult to sort out.

Rural Household Savings Decisions

Despite the methodological problems of sorting out the specific determinants of household savings performance, economic logic suggests that savings behavior is influenced by the real rates of return which households can expect from their financial savings. In the past 15 years, a large number of studies have shown that most farmers in low income countries are making production decisions in a manner which can be largely explained by neo-classical economic theory. That is, they are more-or-less maximizing their net returns by equating marginal costs and returns for various factors of production and for various products. There is no reason to expect that this economic rationality does not extend into savings-consumption decisions. It seems plausible that

if rural households are knowledgeable about, and sensitive to, rates of return from various inputs in their farm operations, they should also be sensitive to rates of return on various savings alternatives. A brief outline of how rural households may be making savings decisions should be useful in interpreting the South Korean savings data presented later.

Almost any household, irregardless of its income level, attempts to maintain some diversified portfolio of assets. These assets may include physical goods such as land, cattle, machinery, crops in storage, consumer durables, buildings, gold and jewelry. It may also include financial assets such as cash, non-interest bearing deposits in formal institutions, and various interest paying assets. Households may also consider unutilized credit reserves as a financial semi-asset. That is, a household may place a very high psychic value on being able to borrow additional resources in case of an emergency from someone like a landlord, a friend or relative, a money lender, or a formal lender.

How does the household make decisions about which asset and what mix of assets to hold in its portfolio? Some households are unable to include certain assets because they are simply unavailable, or their costs far exceeds the household's financial abilities. A rural landless household, for example, would probably find it difficult to acquire a parcel of land, or to hold part of its economic surplus in livestock. Likewise, households located long distances from financial facilities may find formal financial deposits difficult to own. The amount which households decide to hold in their asset portfolio will also be influenced by income levels, the stability of income flows, and consumption alternatives. Liquidity desires and risk considerations will also influence the composition of the portfolio. Given these kinds of considerations, households will probably attempt to maximize expected

economic returns from their saving-asset portfolio in much the same manner they attempt to maximize expected profits from their current farm production processes.

There are a number of ways in which developmental policies can influence the size and make up of a household's savings-asset portfolio. For example, the extension of banking facilities into rural areas may allow households to add demand and savings deposits to their asset portfolio. An increase in the rate of interest paid on savings deposits may induce households to shift their portfolios away from other assets toward savings deposits. The higher rate of return on savings deposits will also increase the average expected rate of return on savings portfolios which include financial savings. This, in turn, will increase the opportunity cost of consumption and possibly increase the proportion of total income directed to savings. One should expect real rates of return on financial assets to have a double impact. First, they cause a shift in the make up of the household's savings portfolio. Second, they also cause a change in the allocation of income between consumption and savings.

Rural Savings in South Korea

A significant part of the financial savings deposits in South Korea come from rural households. A major part of these rural financial savings are located in deposits in various agricultural cooperatives. As can be noted in Table 2, deposits in South Korean rural cooperatives have increased very rapidly since 1964. In real terms, total deposits increased more than 10-fold over this period. The part of these deposits made up by time and savings increased even more rapidly, going up more than 15-fold in real terms over the 1964-74 period. As can be noted by comparing data in Tables 1 and 2, savings deposits in rural cooperatives made up about 8 percent of the total

TABLE 2: Financial Deposits in the National Agricultural Cooperatives Federation and Member Cooperatives 1963-74

Year	Total Deposits	Time and Savings Deposits	Demand and Other Deposits
	In Billion 1970 Won*		
1963	12.3	1.4	10.9
1964	10.4	1.1	9.3
1965	15.5	4.0	11.5
1966	28.1	14.9	13.2
1967	35.0	18.7	16.3
1968	54.5	29.5	25.0
1969	82.9	44.9	38.0
1970	95.7	56.2	39.5
1971	100.5	60.9	39.6
1972	107.6	61.6	46.0
1973	127.5	73.6	53.9
1974	115.5	62.3	53.2

Source: Economic Planning Board, Republic of Korea, Korea Statistical Yearbook, 1970, Economic Planning Board, Seoul, Korea, 1970; and Robert B. Morrow and Paul E. White, "Farm Credit in Korea," Small Farmer Credit in East Asia, Vol. 11, A.I.D. Spring Review of Small Farmer Credit, Agency for International Development, Washington, D.C., February 1973.

* The wholesale price index for Korea was used to convert these data to constant 1970 values. In 1970 the exchange rate of won for dollars was 316.

financial savings deposits in South Korea in 1974. This was up from about 5 percent in 1963. Although impossible to measure, a substantial amount of additional rural financial savings in Korea also finds its way into other financial institutions besides the rural cooperatives.

The growth in financial deposits appear to have paralleled a substantial growth in rural household savings capacity. An indication of the magnitude of these household savings can be drawn from information collected by the annual Korean Farm Household Economy Survey. This survey is based on a representative nationwide sample of farm households. As can be noted in Table 3, the survey covered almost 1,200 households from 1963 to 1973 and was then expanded to about 2,500 households in 1974. Aside from some replacement, the survey covered the same households each year 1963 to 1973.

The average propensities to save (APS) of these households by various farm size groups and years are presented in Table 3. The APS is net household disposable income less total household consumption and expenditures over net household disposable income. Since all expenditures on health, education, and consumer durables are included with current household consumption figures, the APS's shown in Table 3 are somewhat understated.

As can be noted in the table, the APS for all households in the survey showed an irregular but steady increase. In 1963, the average household in the survey saved about 12 percent of its income, but by 1974 this had increased to 33 percent. As might be expected, the average APS varied substantially from year-to-year depending on changes in household incomes. In several years, particularly 1965, farm incomes were affected by very dry weather. In several other years, particularly 1971, rural household incomes were strongly affected by government pricing policies.

TABLE 3: Average Propensities to Save of Families in the Korean Farm Household Economy Survey by Farm Size Groups, 1963-74

Year	Number of Households	Average Propensity to Save (APS)*					
		All Households	0-0.5ha	0.5-1.0ha	1.0-1.5ha	1.5-2.0ha	2.0-ha
1963	1161	0.12	0.01	0.07	0.14	0.21	0.29
1964	1172	0.15	0.04	0.14	0.12	0.24	0.29
1965	1173	0.04	-0.05	0.01	0.06	0.12	0.13
1966	1180	0.10	0.01	0.09	0.10	0.13	0.23
1967	1176	0.10	0.04	0.09	0.08	0.17	0.16
1968	1181	0.16	0.06	0.11	0.20	0.23	0.24
1969	1180	0.18	0.06	0.18	0.20	0.17	0.27
1970	1180	0.15	0.03	0.13	0.16	0.26	0.19
1971	1180	0.29	0.17	0.24	0.34	0.35	0.36
1972	1182	0.25	0.02	0.21	0.34	0.30	0.30
1973	1170	0.26	0.15	0.19	0.27	0.34	0.40
1974	2515	0.33	0.22	0.29	0.35	0.43	0.40

Source: Ministry of Agriculture and Fisheries, Republic of Korea, Report on the Results of Farm Household Economy Survey, various years (1963-1974) reports published by the Ministry of Agriculture and Fisheries, Seoul, Korea.

* The average propensity to save equals the total farm household net surplus divided by total net disposable income.

Again, as might be expected, there were substantial differences in APS across the various farm size groups. In 1963, households with only a half hectare or less of land saved about one percent of their income, while households with two hectares or more saved 29 percent of their income. The savings performance of all farm size groups increased substantially over the 12-year period under study. In 1974 the households with the smallest farms saved 22 percent of their income, while the households with the largest farm sizes were saving 40 percent of their incomes.

The specific factors which caused this very substantial increase in rural savings are not easy to isolate and specify. As U Tan Wai has pointed out, the reasons for changes in savings behavior can be roughly grouped into three categories: ability to save, opportunities to save, and incentives to save [Wai]. The ability to save is largely determined by the amount of household disposable income. Other things being equal, households tend to save a larger proportion of their income as the purchasing power of their incomes increase. As can be noted in Table 4, the "income-effect" likely had a strong impact on rural savings behavior in South Korea. The average income of households in the survey increased in real terms about 36 percent over the 1963-74 period. In 1963 the average household earned about 226 thousand won ($715 dollars U.S.). This increased to 306 thousand won ($970 dollars U.S.) in 1974. This was equal to roughly $110 and $170 dollars U.S. per capita respectively. As can be noted in Table 4, these income increases were relatively equitably spread among all farm size groups. In part, the households with small farm units were able to significantly increase their incomes through an expansion in off-farm employment opportunities.

The opportunities to save are provided by various on-farm investment alternatives, some household production activities and off-farm investments

TABLE 4: Average Annual Disposable Incomes of Korean Farm Households by Farm Size Group, 1963-1973

Year	Number of Households	Average all Households	By Farm Size Group				
			0-0.5ha	0.5-1.0ha	1.0-1.5ha	1.5-2.0ha	2.0-ha
			(Thousand 1970 Korean Won)*				
1963	1161	226	140	187	286	354	473
1964	1172	242	151	209	284	393	507
1965	1173	206	133	174	239	314	398
1966	1180	225	145	188	257	328	462
1967	1176	228	149	194	253	331	425
1968	1181	234	156	189	263	335	446
1969	1180	248	161	209	266	344	485
1970	1180	249	160	207	280	373	458
1971	1180	288	171	239	337	418	543
1972	1182	285	160	241	347	439	483
1973	1170	286	171	239	323	407	573
1974	2515	306	183	262	349	472	636

Source: Ministry of Agriculture and Fisheries, Republic of Korea, Report on the Results of Farm Household Economy Survey, various years (1962 thru 1974) reports published by the Ministry of Agriculture and Fisheries, Seoul, Korea.

* Converted to 1970 prices by using the Index of Prices received by farmers. In 1970 the average rate of exchange was 316 won for 1 dollar U.S.

including financial assets. The large number of wide-spread, primary cooperatives and other formal financial institutions in Korea provide most rural people easy access to formal financial facilities. As a result, it is relatively easy and inexpensive for rural households to purchase financial assets. Unlike many low income countries, rural people are not forced to travel long distances to make financial deposits. Although difficult to measure, it is very likely that overall opportunities to save in rural areas of South Korea have been substantially increased and improved over the past 15 years.

Changes in the incentives to save are even more difficult to relate directly to saving behavior. As suggested earlier, household savings are probably strongly influenced by the average rate of return which households expect from their savings. This includes interest rates paid on savings deposits. In addition, savings behavior can be strongly affected by changes in goods available for consumption. Rationing during wartime, for example, may sharply reduce and restrict household consumption decisions. The reverse occurs when attractive new consumer goods like radios, refrigerators, bicycles, and television sets begin to flood rural areas. These new consumer goods may tilt household decisions in favor of current versus future consumption.

Conclusions

The savings performance of rural people in South Korea over the past few years has been remarkable. It has been almost as impressive as the recent expansion in rural savings capacities in Taiwan. Rural households in Korea have saved a significant part of their incomes even though per capita incomes were quite low. As in the Taiwan case, this savings performance appears to have been closely related to significant increases in incomes in rural areas, expansion and improvement in the opportunities for rural people to save,

and strong positive incentives to save. Attractive interest rates on financial savings since 1965 appear to have played an important role in increasing the overall incentives to save.

The very substantial savings capacities expressed in rural areas of South Korea appear to seriously challenge one of the fundamental assumptions which underlies most modern economic growth theory. This assumption is that capital formation can only be accelerated by concentrating income increases in the hands of the State, corporations, or the wealthy. The Korean case indicates that even the poorest households in a developing economy will be willing to save at relatively low income levels if incomes start to increase, and savings opportunities and incentives are available. It also indicates that flexible interest rate policies on financial deposits can play a key role in mobilizing funds voluntarily in rural areas. In all too many low income countries, policies are such that rural savings capacities are deflated and discouraged. Many policy makers might be pleasantly surprised by the amount of voluntary rural savings which could be mobilized by positive and aggressive policies in this regard.

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